

ABSTRACT

A position sensor including a magnetic circuit comprising a magnet having opposite first and second magnetic poles, a first pole piece having a proximal portion positioned adjacent the first magnetic pole and a distal portion positioned adjacent the second magnetic pole to define a first air gap area with a first magnetic field provided adjacent thereto, and a second pole piece having a proximal portion positioned adjacent the second magnetic pole and a distal portion positioned adjacent the first magnetic pole to define a second air gap area with a second magnetic field provided adjacent thereto. A first magnetic flux sensor is disposed within the first magnetic field to sense varying magnitudes of magnetic flux density and to generate a first output signal. A second magnetic flux sensor is disposed within the second magnetic field to sense varying magnitudes of magnetic flux density and to generate a second output signal.